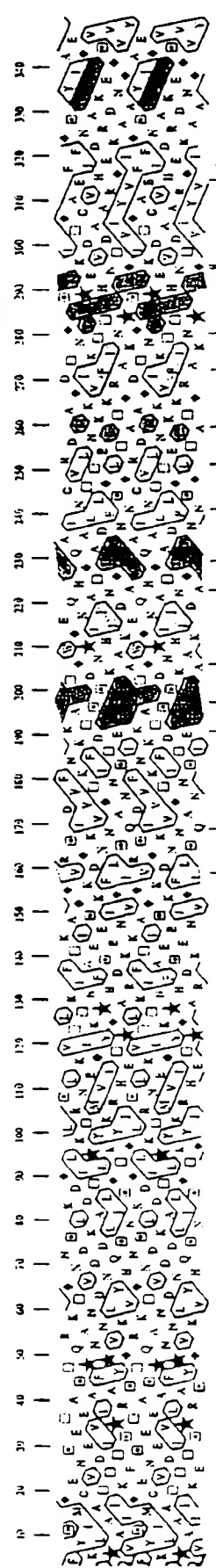


27 AVSPKTYKDADFYVAPTQQDVNY__DLVDDFGANGNDTSD 64
 | | | | | | | | | | | | | |
 28 DTSEISEVPTELRAAASSFYTPPGQVRANKKNLVTIDYGVNHNDQND 74
 ↓ ↓
 65 DSNALQRAINAI SRKPNGGTILLIPNGTYHFLGIQMKSNVHIRVESDVTIK 114
 || | | | | | | | | | | | | | |
 75 DSSKLNLAIKDLS__DTGGILTLPGKGYLTKIRMRSNVHLEIEKGTIVTY 122
 ↓
 115 PTWN GDGKNHRLFEVG__VNNIVRNFSFQGLGNGFLVDFKDSRDKNLAV 161
 || | | | | | | | | | | | | | |
 123 PTKGLTPAKNHRIFDFASKTEEKIENASIVGKGGKFTVDLRGNSSKNQIV 172
 ↓ ↓
 162 FKLGDVRNYKISNFTIDDKTIFASILVDVTERNGRLHWSRNGIIERIKQ 211
 | | | | | | | | | | | | | | | | | |
 173 ADVGNVINFKISNFTIKDEKTI FASILVSFTDKAGN_AWPHKGIIENIDQ 221
 ↓ ↓ ↓
 212 NNALFGYGLIQTYGADNILFRNLHSEGGIALRMEIDNLLMKNYKQGGIRN 261
 || | | | | | | | | | | | | | | | | | |
 222 ANAHITGYGLIQAYAADNILFNLSCTGGVTLRLETNLA MKTAKKGGVRD 271
 ↓
 262 IFADNIRCSKGLAAMFGPHFMKNGDVQVINVSSVSCGSAVRSDSGFVEL 311
 || | | | | | | | | | | | | | | | | | |
 272 IFATKEKNINGLTPVMFSPHFMENGKVTIDDVTAIGCAYAVRVEHGFIEI 321
 ↓
 312 FSPTDEVHTRQSWKQAVESKLGRGCAQTPYARGNGGTRWAARVT__OKD 358
 | | | | | | | | | | | | | | | | | |
 322 FDKGNRASA_DAFKNYIEGILGAGSVEVYKRNGRT_WAARIANDFNEA 369
 ↓
 359 ACLDKAKLEYGIEPGSFQTVKVFDTARF_GYNADLKQDQLDYFSTSNPM 407
 | | | | | | | | | | | | | | | | | |
 370 AYNHSNPAVSGIKPGKFATSKVINVKATYKGTGAKLKQAFLSYLPCSER_ 418
 ↓
 408 CKRVCLPTKEQWSKQGGIYIGPSLAAVID_TTPETSKYDYDVKTENVKRI 457
 | | | | | | | | | | | | | | | | | |
 419 SK_VCRPGPDGFE__YNGPSLGVTIDNTKRNSLGNYNVNVSTSSVQ 462
 ↓
 457 NFPVNSHKTIDNTIESSRVCNYY_CMSECSSSRWER 491
 || | | | | | | | | | | | | | |
 463 GFPNNYVLNVKYNT__PKVCNQNLG_SITSCN 491

FIG.1

Cytophaga drobachiensis iota-carrageenase

HCA 2.5.0



Alteromonas foris iota-carrageenase

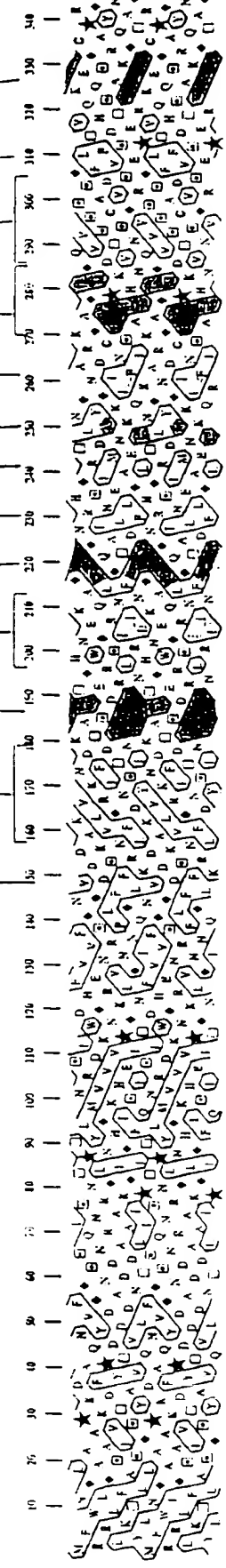
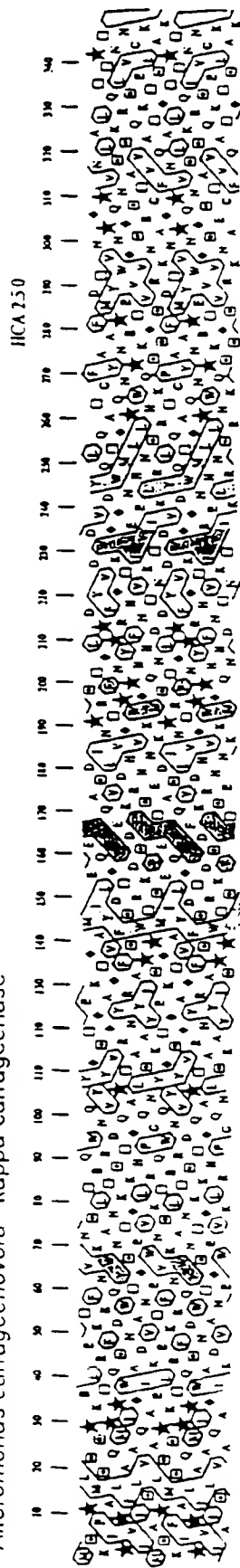


FIG. 2

1	MKKPNFYGKMGR TALSSLFYLFGLVYGQQPTKTSNPNDQWTIKWSASDEFN_KNDPDW	59
1	MKPI SIVAFPIPAISMLLLSAVSQAASM_QPPIAK_PGETWILQAKRSDEFNVK_DAT_	55
60	AKWIK_TGNLPNTSAWKWN_NQKNVKISNGIAELTM_RHNANNTPPDGGT_____YF__	108
56	_KWNFQ TENYGVWS_WK_NENAT_V__SNGKLKLTTRKRESHQRTFWDGCNQQQVANYPLY	109
109	_TSGIFKSYQKFTYGYFEAKIQGADIGEGVCP SFWLYSDFDYSVAN_GETVYSEIDVVEL	166
110	YTSGVAKSRATGNYGYEARIKGASTFPGVSPAFWMYSTIDRSLTKEGDVQYSEIDVVEL	169
167	QQFDWY_EGHODDIYDMDLNLHAVVKENGQGVWKRPKMYPQEQLNKWRAM_DPSKDFHIY	224
170	TQKSAVRES__DH__DLH_NI__VVK_NGKPTWMRPGSFPQTNHNGYHLPDPRNDFHTY	221
225	GCEVNQNEIIWYVDGVE_VARKPNKYWHRPMNVTL SLGLRKPFVKFFDNKNNAINPETDA	283
222	GVNVTKDKITWYVDG_EIVGEKDNLYWHRQMNLTLSQGLRAPHTQW__KCNQFYPSAN_	276
284	K_AREKLSDIPTSMYVDYVRVWEKSAGNTTNPPTSEVGT LKTKGSKLVIDHWDASTGTIS	342
277	KSA_EGF__PTSMEVDYVRTWVKVGNNNSAPGEGQSCPNTFVAVNSVQLSAAKQTLRKG	332
343	AVSNNTKTGQYAGSVNNASIAQIVTLKANTS YKVS AFGKASSPGTSAYLGISKASNNELI	402
333	QSTTLESTVLPNCATNKKVIYSSSNKNVATVNSAGVV_KAKNKG TATITVKTKNKGKIDKL	392
403	SNFEFKTTSYSKGEIEIRTGNVQESYRIWYWSSGQAYCDDFNLVEINSGASQLNENETET	462
393	TIAVN	397
463	ALEKGIHIYPNPYKNGPLTIDFGKPFSGEVQITGLNGRTFLRRNVVDQTSVQLLESKSKF	522
523	KSGLYIVKISGPDGEVSKKILVE	545

FIG.3

Alteromonas carrageenovora kappa-carrageenase



Cytophaga drobachiensis kappa-carrageenase

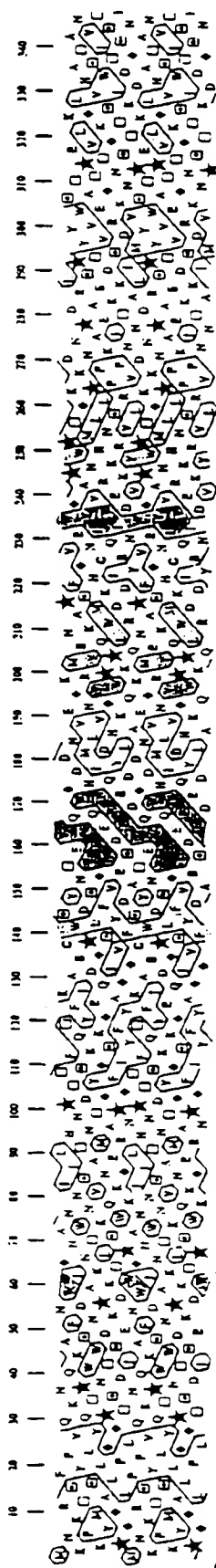


FIG. 4